Technical Bulletin

Subject: **SR-4 Spring Brake Control Valve Replacement / Changeover Instructions**

Ref: Installation Instructions – SR-4 Spring Brake Control Valve

Attached to this bulletin are instructions for installation of the Bendix SR-4 Spring Brake Control Valve. The SR-4 is used in trailer air systems to control the application and release of the trailer spring brakes.

The SR-4 may be used to replace any existing spring brake control valve. It should be noted, however, that some piping modifications are necessary when converting to the Bendix SR-4 system. The piping diagrams in the changeover instructions should be carefully followed, and the system checked out for proper operation before placing the vehicle back in service. Operational and leakage test instructions are included in the instructions.

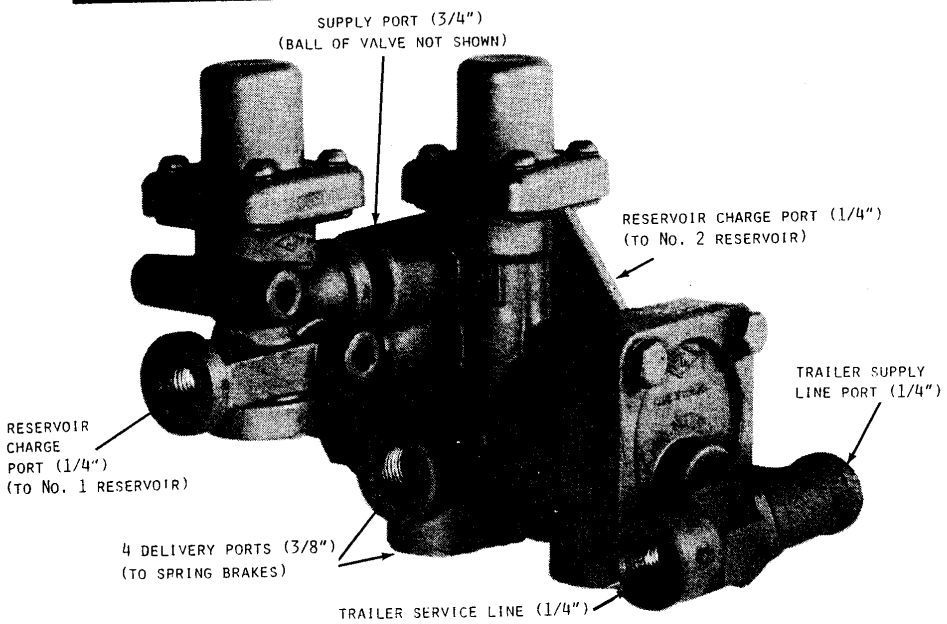
The SR-4 installation/changeover instruction sheet will be included with all Aftermarket SR-4 Control Valves.

Bendix®

Installation Instructions

REPLACEMENT/CHANGEOVER SR-4 SPRING BRAKE CONTROL VALVE

PC. NO. 101112



The Bendix SR-4 Spring Brake Control Valve is used in the trailer spring brake system to control the application and release of the trailer spring brakes.

A. SR-4 REPLACEMENT INSTRUCTIONS

1: Block trailer wheels and drain all reservoirs completely.

2. Identify and disconnect all lines.

3. Remove valve.

4. Install valve, connect lines to proper ports.

5. Close reservoir drains, recharge air system, check for proper operation and leakage. (See Part C)

B. SR-4 CHANGEOVER INSTRUCTIONS

The SR-4 Spring Brake Control Valve may be used to replace existing spring brake control valves. To effect this changeover, the following information is provided.

BEFORE PROCEEDING, BLOCK WHEELS AND DRAIN ALL SYSTEM RESERVOIRS. Identify your trailer system piping. The key to identification is as follows:

1. How many reservoirs are on the trailer? 2__ 3__

   Note: Some trailer systems may be equipped with a multi-compartment reservoir which can be identified by the presence of more than one drain cock. Treat each compartment as a separate reservoir.

2. If two reservoirs are on the trailer, refer to piping diagram "A" (Figure 2). Remove existing components as necessary and repipe as illustrated.

   Note: Some original trailer systems utilize a dual relay valve (housed in one body) to provide independent service braking of each axle. Converting to the Bendix SR-4 system modifies this to a system where all service braking is supplied through one reservoir. If the anti-lock components on this vehicle were previously replaced by two service relay valves, converting to the SR-4 system will require the removal of one of the relay valves or supplying both from reservoir No. 1.

3. If three reservoirs are utilized, refer to piping diagram "B" (Figure 3), remove existing components as necessary and repipe as illustrated.

   Note: For a four-wheel trailer, reservoir No. 3 must have a minimum volume of 1375 cubic in. (7" x 40", 8" x 30" and 9-1/2" x 23" are reservoirs with approximately 1375 cubic in.)

C. SR-4 OPERATIONAL AND LEAKAGE TESTS

After completing installation, conduct the following operational and leakage tests.

Check the tractor dash gauge against a test gauge known to be accurate prior to performing these tests. Connect the tractor air lines to the trailer on which the SR-4 trailer spring brake valve is to be tested. Block all wheels, or otherwise hold both vehicles by a means other than air brakes during these tests.

1. Install two separate test gauges or one dual test gauge with one line to the trailer front service reservoir and the other line to the trailer rear service reservoir(s). Build the tractor and trailer to full system pressure by placing the trailer supply valve in the charge position and the parking control valve in the brakes released position.

   Note: As system pressure reaches approximately 55 PSI, the rear service reservoir(s) and the spring brakes should build up to approximately 60 PSI before the front service reservoir begins to charge. When full system pressure has been reached and the spring brakes fully released, it is acceptable to have a slightly lower pressure reading in the service reservoirs than is registered on the dash gauge. Soap suds should be applied to the reservoir mounting cap nut, and each of the stamped pressure protection caps of these SR-4 Valves. No leakage permitted. Soap suds should be applied to the exhaust port and the vent. Leakage of a 1 in.soap bubble in five seconds is permissible.

2. Place the trailer supply valve in the emergency (closed) position; the spring brakes should be applied. Disconnect the trailer supply line and soap the trailer half of the hose coupling to check for leaks. A 1 in. soap bubble in five seconds is permissible.
3. Reconnect the trailer supply hose coupling and recharge the trailer system. The spring brakes should release. Shut off the engine, leaving the ignition on and open the drain cock on the front or rear trailer reservoir. The tractor air system should bleed down to approximately 55 PSI with low pressure, indication occuring at or before 60 PSI, and the spring brakes on tractor and trailer should remain released. After the system is stabilized, leakage at the open drain cock in the trailer should not exceed a 1 in. bubble in five seconds.
4. Close the drain cock on the trailer reservoir chosen in step 3, recharge the system, stop the engine and open the drain cock on the reservoir not drained in Step 3. Again, the spring brakes should remain released on both the tractor and trailer. Leakage at the open drain cock should not exceed a 1 in. bubble in five seconds. As this test is completed, close the drain cock on the trailer reservoir.

If the SR-4 Valve does not function as described above, recheck for proper piping. If leakage is excessive, check all connections and correct as necessary.

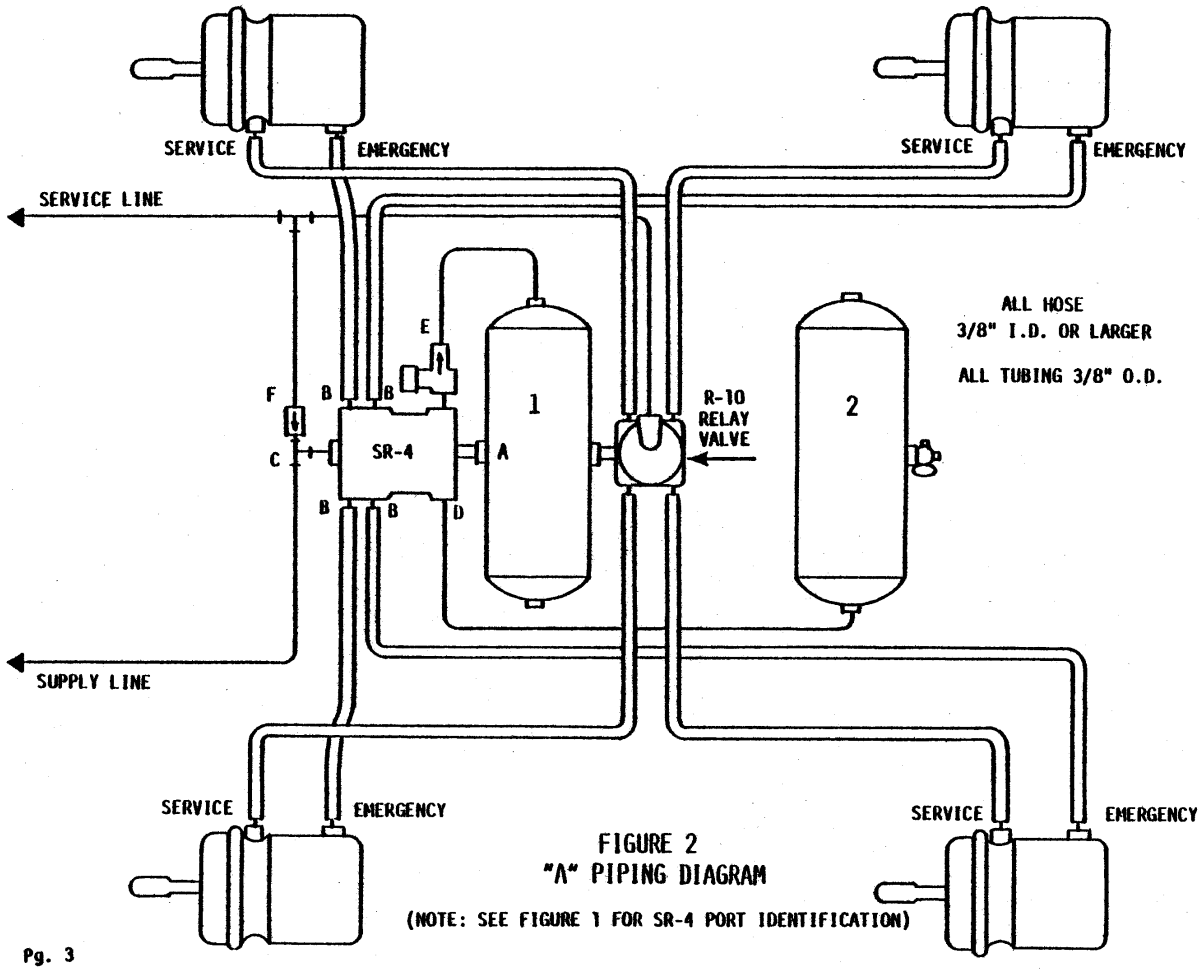


FIGURE 2
"A" PIPING DIAGRAM

(NOTE: SEE FIGURE 1 FOR SR-4 PORT IDENTIFICATION)

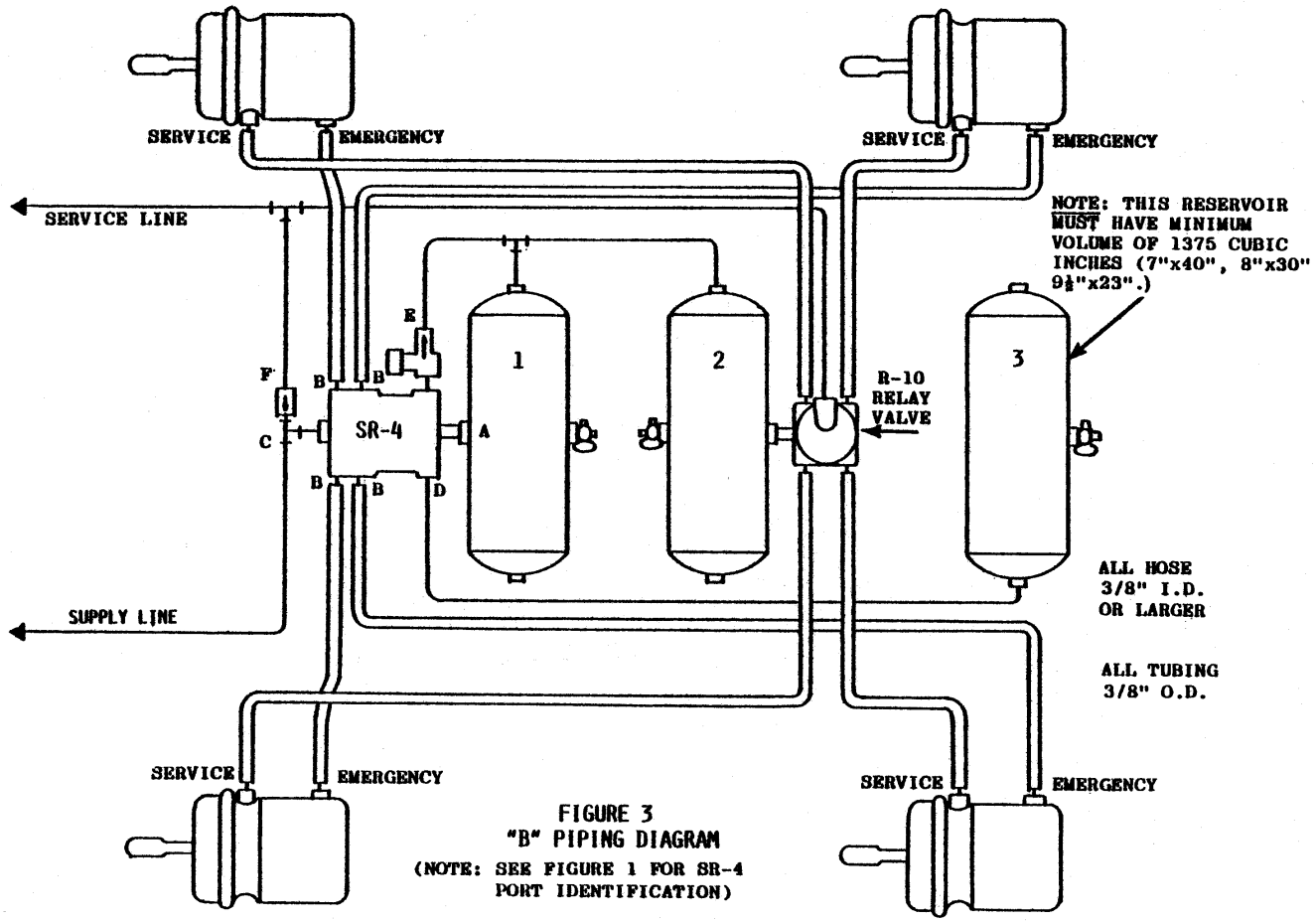


FIGURE 3
"B" PIPING DIAGRAM
(NOTE: SEE FIGURE 1 FOR SR-4 PORT IDENTIFICATION)